What is claimed is:

1. A method comprising:

modeling in a common representation network element

commands, events and data from a plurality of sources;

5   translating data represented in a first modeling language

to data represented in a second modeling language;

storing the data in the second modeling language in a

global data model repository; and

automatically generating code to support external

10 management interface based on the stored data in the global

repository.

2. The method of claim 1 further comprising

automatically generating system documentation based on the

15 stored data.

3. The method of claim 2 wherein the generated system

documentation corresponds to a code generated implementation.

20   4. The method of claim 1 wherein the first language is

structured management information (SMI).

5. The method of claim 1 wherein the second language is

extensible markup language (XML).

6. The method of claim 1 wherein automatically generating code for the external interface includes automatically generating code in implementation of a command
5 line interface (CLI).

7. The method of claim 1 wherein automatically generating code for the external interface includes automatically generating code in implementation of a an
10 Extensible Markup Language interface.

8. The method of claim 1 wherein automatically generating code for the external interface includes automatically generating code in implementation of a Simple
15 Network Management Protocol interface.

9. The method of claim 1 wherein automatically generating code for the external interface includes automatically generating code in implementation of a
20 configuration database.

10. The method of claim 1 wherein automatically generating code for the external interface includes

automatically generating code in implementation of Simple

Network Management Protocol subagents.

11.   The method of claim 1 wherein automatically

5   generating code for the external interface includes

automatically generating code to assist in implementation of

an Application Program Interface.

12. The method of claim 1 wherein modeling operational

10   system data from a plurality of sources includes modeling run-

time system data from a plurality of sources using at least

one of the first language and the second language.

13.   A system comprising:

15   a global repository;

an interface to a plurality of sources; and

an interface to an external interface,   with

the global repository is configured to:

model in a common representation network element

20   commands, events and data from a plurality of sources;

translate data represented in a first modeling language

to data represented in a second modeling language;

for store the data in the second modeling language in

the global data model repository; and

automatically generate code to support external

management interface code development based on the stored data

in the global repository.

5   14.   The system of claim 13 further configured to

automatically generate system documentation based on the

stored data.

15.   The system of claim 14 wherein the generated system

10   documentation corresponds to a code generated implementation.

16.   The method of claim 13 wherein the first language is

structured management information (SMI).

15   17.   The method of claim 13 wherein the second language

is extensible markup language (XML).

18. The method of claim 13 wherein the global repository

is further configured to model operational system data from a

20   plurality of sources using at least one of the first language

and the second language.

19.   A computer program product, tangibly embodied in an

information carrier, for executing instructions on a

- 22 -

processor, the computer program product being operable to cause a machine to:

model in a common representation network element commands, events and data from a plurality of sources;

5   translate data represented in a first modeling language to data represented in a second modeling language;

store the data in the second modeling language in a global data model repository; and

automatically generate code to support external

10 management interface code development based on the stored data in the global repository.

20.   The computer program product of claim 19 further configured to automatically generate system documentation

15 based on the stored data.

21.   The computer program product of claim 20 wherein the generated system documentation corresponds to a code generated implementation.

20

22.   The computer program product of claim 19 wherein the first language is structured management information (SMI).

23. The computer program product of claim 19 wherein the second language is extensible markup language (XML).

24. The computer program product of claim 19 wherein the

5   global repository is further configured to model operational system data from a plurality of sources using at least one of the first language and the second language.

25. The computer program product of claim 19 wherein the

10   instructions to cause a machine to automatically generate code for the external interface include instructions to cause a machine to automatically generate code implementat a command line interface (CLI).

15   26. The computer program product of claim 19 wherein the instructions to cause a machine to automatically generate code for the external interface include instructions to cause a machine to automatically generate code to implementata configuration database.

20

27. The computer program product of claim 19 wherein the instructions to cause a machine to automatically generate code for the external interface include instructions to cause a

machine to automatically generate code to implement SNMP

subagents.

28. The computer program product of claim 19 wherein the

5   instructions to cause a machine to automatically generate code

for the external interface include instructions to cause a

machine to automatically generating code implement an API.

29. The computer program product of claim 19 wherein the

10   instructions to cause a machine to model operational system

data from a plurality of sources include instructions to cause

a machine to modeling operational system data from a plurality

of sources using at least one of the first language and the

second language.

15